

as *variation*. Inheritance struggles to have the plant fertilize itself with its own pollen; whilst the efforts of variation are towards an intermixture of races or even neighboring individuals, rather than with members of the one brood or family. May it not be possible that at some time in their past history all species of plants have been hermaphrodite? that Diœcism is a later triumph of variation, its final victory in the struggle with inheritance? There are some difficulties in the way of such a theory, as there are with most of these theories; but it seems clear from this case of *Epigœa* that cultivation has not so much to do with changes as it gets credit for, and we may readily believe that, independently of external circumstances, there is a period of youth and a period of old age *in form* as well as *in substance*, and that we may therefore look for a continual creation of new forms by a process of vital development, just as rationally as for the continued succession of new individuals.

The discovery of diœcism in *Epigœa* is interesting from the fact that it is probably the first instance known in true *Ericaceæ*. In the *Ericale* suborder of *Francoacœa*, abortive stamens are characteristic of the family, and in the *Pyrolacœa* antherless filaments have been recorded.

Monœcism in *LUZULA CAMPESTRIS*.

BY THOMAS MEEHAN.

The recent discovery, that many plants structurally hermaphrodite are practically monœcious or diœcious, in consequence of the flower being so arranged as to prevent self-impregnation, is so interesting that every additional fact bearing on the subject has a value.

Luzula campestris, D. C., adds another to the list. The three stigmas are protruded through the apex of the flower bud some days before the sepals open and expose the anthers. In the specimens I marked for observations, six days elapsed before the flower opened, after the pistils had been protruded to be operated on by the pollen of other flowers. This was in a cloudy week, and probably the exact time might vary with the weather. In all cases the stigmas wither away before the flower opens.

After fertilization the stigmas generally twist around one another, and after the anthers have shed their pollen they twist in the same way, withering up in a very short time. An interesting fact in *Luzula* is the slight adhesion at the articulation of the subpedicels with the main flower stalk,—the gentlest force being sufficient to draw them out of their sheaths. It is perhaps owing to this weakness that the pedicels are often drooping when in fruit.

June 2d, 1868.

MR. VAUX, Vice-President, in the Chair.

Twenty-five members present.

The following papers were presented for publication:

“Description of seven new species of *Unio* from North Carolina.”

By Isaac Lea.

“Descriptions of two new species of *Unionidæ* from Equador.”

By Isaac Lea.

“New *Unionidæ*, *Melanidæ*, &c., chiefly of the United States.”

By Isaac Lea.

“On *Agaphelus*, a genus of toothless *Cetacæa*.” By Edw. D. Cope.

Dr. Leidy called attention to some specimens of *Sombbrero Guano* containing about 90 per cent. of phosphate of lime. This substance

[June,